# CLAIMS

1. A leadframe adapted to prevent mold compound flash debris, comprising:

a pair of leadframe rails extending along opposite sides of the leadframe; and

a respective mold compound adherence area formed on each of the leadframe rails, the mold compound adherence area having properties that cause a mold compound to adhere to the mold compound adherence area to a significantly different degree than portions of the leadframe outside the mold compound adherence area.

2. The leadframe of claim 1 wherein the mold compound adherence areas comprise areas having properties that cause the mold compound to adhere to the mold compound adherence area more securely than portions of the leadframe outside the mold compound adherence area.

3. The leadframe of claim 1 wherein the mold compound adherence areas comprise areas having properties that cause the mold compound to adhere to the mold compound adherence area less securely than portions of the leadframe outside the mold compound adherence area.

4. The leadframe of claim 1 wherein the mold compound adherence areas are formed on opposite surfaces of the respective leadframe rails.

5. The leadframe of claim 1 wherein each of the mold compound adherence areas comprises at least one aperture formed in a respective one of the leadframe rails.

6. The leadframe of claim 5 wherein each of the mold compound adherence areas comprises a plurality of apertures formed in a respective one of the leadframe rails.

7. The leadframe of claim 5 wherein each of the apertures comprises an aperture having an elongated shape.

8. The leadframe of claim 1 wherein each of the mold compound adherence areas comprises an area of surface treatment formed on a respective one of the leadframe rails.

9. The leadframe of claim 8 wherein each of the areas of surface treatment comprises an area of surface roughness formed on a respective one of the leadframe rails.

10. The leadframe of claim 9 wherein each of the areas of surface roughness comprises a mechanically formed area of roughness.

11. The leadframe of claim 9 wherein each of the areas of surface roughness comprises a chemically formed area of roughness.

12. The leadframe of claim 8 wherein the area of surface treatment comprises an area of a material on each of the leadframe rails that is different from a material used to form another portion of the leadframe.

13. The leadframe of claim 12 wherein the area of material on each of the leadframe rails comprises a panel of the material that is bonded to the leadframe rail.

14. The leadframe of claim 12 wherein the area of material on the each of leadframe rails comprises a panel of the material that extends through the respective leadframe rail from one side of the leadframe rail to the other.

15. The leadframe of claim 12 wherein the area of surface treatment on each of the leadframe rails comprises an area of the material coating each of the leadframe rails.

16. The leadframe of claim 15 wherein the material coating an area of each of the leadframe rails comprises a material that increases the adherence of the mold compound to the leadframe rails.

17. The leadframe of claim 15 wherein the material coating an area of each of the leadframe rails comprises a material that decreases the adherence of the mold compound to the leadframe rails.

18. The leadframe of claim 17 wherein the material coating an area of each of the leadframe rails comprises a surface lubricant.

19. The leadframe of claim 1 wherein each of the mold compound adherence areas comprises an area of increased surface roughness formed on opposite sides of a respective one of the leadframe rails.

20. The leadframe of claim 1, further comprising:

a plurality of integrated circuit attachment panels; and

a plurality of leads extending from each of the integrated circuit attachment panels.

21. An injection mold for molding a package for an integrated circuit, the injection mold comprising:

a first mold section including a plurality of mold cavities;

a second mold section including a plurality of mold cavities corresponding in number to the number of cavities included in the first mold section and having a size and a shape corresponding to the size and shape of the mold cavities in the first mold section; and

a leadframe positioned between the first and second mold sections, the leadframe having a pair of leadframe rails extending along opposite sides of the leadframe, the leadframe further including a respective mold compound adherence area formed on each of the leadframe rails, the mold compound adherence area having properties that cause a mold compound to adhere to the mold compound adherence area to a significantly different degree than portions of the leadframe outside the mold compound adherence area.

22. The injection mold of claim 21 wherein a respective injection inlet adjacent is formed adjacent each of the mold cavities in the second mold section, and a respective mold vent is formed adjacent each of the mold cavities in the second mold section on adjacent an edge of the mold cavity opposite the injection inlet for the mold cavity in the second mold section.

23. The injection mold of claim 21 wherein the mold compound adherence areas comprise areas having properties that cause the mold compound to adhere to the mold compound adherence area more securely than portions of the leadframe outside the mold compound adherence area.

24. The injection mold of claim 21 wherein the mold compound adherence areas comprise areas having properties that cause the mold compound to adhere to the mold compound adherence area less securely than portions of the leadframe outside the mold compound adherence area.

25. The injection mold of claim 21 wherein the mold compound adherence areas are formed on opposite surfaces of the respective leadframe rails.

26. The injection mold of claim 21 wherein each of the mold compound adherence areas comprises at least one aperture formed in a respective one of the leadframe rails.

27. The injection mold of claim 26 wherein each of the mold compound adherence areas comprises a plurality of apertures formed in a respective one of the leadframe rails.

28. The injection mold of claim 26 wherein each of the apertures comprises an aperture having an elongated shape.

29. The injection mold of claim 21 wherein each of the mold compound adherence areas comprises an area of surface treatment formed on a respective one of the leadframe rails.

30. The injection mold of claim 29 wherein each of the areas of surface treatment comprises an area of increased surface roughness formed on a respective one of the leadframe rails.

31. The injection mold of claim 30 wherein each of the areas of increased surface roughness comprises a mechanically formed area of roughness.

32. The injection mold of claim 30 wherein each of the areas of increased surface roughness comprises a chemically formed area of roughness.

33. The injection mold of claim 29 wherein the area of surface treatment comprises an area of a material on each of the leadframe rails that is different from a material used to form another portion of the leadframe.

34. The injection mold of claim 33 wherein the area of material on each of the leadframe rails comprises a panel of the material that is bonded to the leadframe rail.

35. The injection mold of claim 33 wherein the area of material on the each of leadframe rails comprises a panel of the material that extends through the respective leadframe rail from one side of the leadframe rail to the other.

36. The injection mold of claim 33 wherein the area of surface treatment on each of the leadframe rails comprises an area of the material coating each of the leadframe rails.

37. The injection mold of claim 36 wherein the material coating an area of each of the leadframe rails comprises a material that increases the adherence of the mold compound to the leadframe rails.

38. The injection mold of claim 36 wherein the material coating an area of each of the leadframe rails comprises a material that decreases the adherence of the mold compound to the leadframe rails.

39. The injection mold of claim 21 wherein each of the mold compound adherence areas comprises an area of increased surface roughness formed on opposite sides of a respective one of the leadframe rails.

40. The injection mold of claim 21, further comprising:

a plurality of integrated circuit attachment panels; and

a plurality of leads extending from each of the integrated circuit attachment panels.

41. An injection molding machine for molding integrated circuit packages, comprising:

a first mold section including a plurality of mold cavities;

a second mold section including a plurality of mold cavities corresponding in number to the number of cavities included in the first mold section and having a size and a shape corresponding to the size and shape of the mold cavities in the first mold section;

a material reservoir containing a supply of a mold compound that is to be injected into the mold cavities;

an injection mechanism in fluid communication with the material reservoir and the injection vents, the injection mechanism forcibly injecting the mold compound from the material reservoir into the mold cavities;

a heating mechanism for heating the mold sections; and

a leadframe positioned between the first and second mold sections, the leadframe having a pair of leadframe rails extending along opposite sides of the leadframe, the leadframe further including a respective mold compound adherence area formed on each of the leadframe rails, the mold compound adherence area having properties that cause a mold compound to adhere to the mold compound adherence area to a significantly different degree than portions of the leadframe outside the mold compound adherence area.

42. The injection molding machine of claim 41 wherein a respective injection inlet adjacent is formed adjacent each of the mold cavities in the second mold section, and a respective mold vent is formed adjacent each of the mold cavities in the second mold section on adjacent an edge of the mold cavity opposite the injection inlet for the mold cavity in the second mold section.

43. The injection molding machine of claim 41 wherein the mold compound adherence areas comprise areas having properties that cause the mold compound to adhere to the mold compound adherence area more securely than portions of the leadframe outside the mold compound adherence area.

44. The injection molding machine of claim 41 wherein the mold compound adherence areas comprise areas having properties that cause the mold compound

to adhere to the mold compound adherence area less securely than portions of the leadframe outside the mold compound adherence area.

45. The injection molding machine of claim 41 wherein the mold compound adherence areas are formed on opposite surfaces of the respective leadframe rails.

46. The injection molding machine of claim 41 wherein each of the mold compound adherence areas comprises at least one aperture formed in a respective one of the leadframe rails.

47. The injection molding machine of claim 46 wherein each of the mold compound adherence areas comprises a plurality of apertures formed in a respective one of the leadframe rails.

48. The injection molding machine of claim 46 wherein each of the apertures comprises an aperture having an elongated shape.

49. The injection molding machine of claim 41 wherein each of the mold compound adherence areas comprises an area of surface treatment formed on a respective one of the leadframe rails.

50. The injection molding machine of claim 49 wherein each of the areas of surface treatment comprises an area of increased surface roughness formed on a respective one of the leadframe rails.

51. The injection molding machine of claim 50 wherein each of the areas of increased surface roughness comprises a mechanically formed area of roughness.

52. The injection molding machine of claim 50 wherein each of the areas of increased surface roughness comprises a chemically formed area of roughness.

53. The injection molding machine of claim 49 wherein the area of surface treatment comprises an area of a material on each of the leadframe rails that is different from a material used to form another portion of the leadframe.

54. The injection molding machine of claim 53 wherein the area of material on each of the leadframe rails comprises a panel of the material that is bonded to the leadframe rail.

55. The injection molding machine of claim 53 wherein the area of material on the each of leadframe rails comprises a panel of the material that extends through the respective leadframe rail from one side of the leadframe rail to the other.

56. The injection molding machine of claim 53 wherein the area of surface treatment on each of the leadframe rails comprises an area of the material coating each of the leadframe rails.

57. The injection molding machine of claim 56 wherein the material coating an area of each of the leadframe rails comprises a material that increases the adherence of the mold compound to the leadframe rails.

58. The injection molding machine of claim 56 wherein the material coating an area of each of the leadframe rails comprises a material that decreases the adherence of the mold compound to the leadframe rails.

59. The injection molding machine of claim 41 wherein each of the mold compound adherence areas comprises an area of increased surface roughness formed on opposite sides of a respective one of the leadframe rails.

60. The injection molding machine of claim 41, further comprising:

a plurality of integrated circuit attachment panels; and

a plurality of leads extending from each of the integrated circuit attachment panels.

61. A method of reducing the formation of mold compound flash debris during the packaging of an integrated circuit in which a leadframe is placed in a mold into which a mold compound is injected, and the leadframe is subsequently trimmed and formed, the method comprising treating a portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the treated area.

62. The method of claim 61 wherein the act of treating the portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area comprises treating the portion of the leadframe so that mold compound adheres to the treated area significantly more securely than the mold compound adheres to portions of the leadframe outside the mold compound adherence area.

63. The method of claim 61 wherein the act of treating the portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area comprises treating the portion of the leadframe so that mold compound adheres to the treated area significantly less securely than the mold compound adheres to portions of the leadframe outside the mold compound adherence area.

64. The method of claim 61 wherein the act of treating the portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area comprises treating respective areas on each leadframe rail of the leadframe so that mold compound adheres to the treated area to a significantly different

degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area.

65. The method of claim 64 wherein the act of treating respective areas on each leadframe rail comprises treading opposite surfaces on each of the leadframe rails.

66. The method of claim 64 wherein the act of treating respective areas on each leadframe rail comprises forming at least one aperture in each of the leadframe rails.

67. The method of claim 66 wherein the act of forming at least one aperture in each of the leadframe rails comprises forming a plurality of apertures in each of the leadframe rails.

68. The method of claim 66 wherein the act of forming at least one aperture in each of the leadframe rails comprises forming an aperture having an elongated shape in each of the leadframe rails.

69. The method of claim 64 wherein the act of treating respective areas on each leadframe rail comprises forming an area of surface treatment on each of the leadframe rails.

70. The method of claim 69 wherein the act of forming an area of surface treatment on each of the leadframe rails comprises forming an area of increased surface roughness on each of the leadframe rails.

71. The method of claim 70 wherein the act of forming an area of increased surface roughness on each of the leadframe rails comprises mechanically forming an area of increased surface roughness on each of the leadframe rails.

72. The method of claim 70 wherein the act of forming an area of increased surface roughness on each of the leadframe rails comprises chemically forming an area of increased surface roughness on each of the leadframe rails.

73. The method of claim 70 wherein the act of forming an area of increased surface roughness on each of the leadframe rails comprises chemically forming an area of increased surface roughness on each of the leadframe rails.

74. The method of claim 69 wherein the act of forming an area of surface treatment on each of the leadframe rails comprises forming an area of a material on each of the leadframe rails that is different from a material used to form another portion of the leadframe.

75. The method of claim 64 wherein the act of treating respective areas on each leadframe rail comprises coating respective areas on each of the leadframe rails with a material that alters the adherence of the mold compound to the leadframe rails.

76. The method of claim 75 wherein the act of coating respective areas on each of the leadframe rails with a material that alters the adherence of the mold compound to the leadframe rails comprises coating respective areas on each of the leadframe rails with a material that increases the adherence of the mold compound to the leadframe rails.

77. The method of claim 75 wherein the act of coating respective areas on each of the leadframe rails with a material that alters the adherence of the mold compound to the leadframe rails comprises coating respective areas on each of the leadframe rails with a material that decreases the adherence of the mold compound to the leadframe rails.

78. A method of packaging an integrated circuit, comprising:

treating a portion of a leadframe so that a mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the treated area;

mounting an integrated circuit on the leadframe;

placing the leadframe in a mold having a plurality of mold cavities;

injecting a mold compound into the mold cavities;

allowing the mold compound to solidify;

after the mold compound has solidified, removing the leadframe and a package formed by the mold compound from the mold as a unit; and

trimming and forming the leadframe.

79. The method of claim 78, further comprising deflashing the leadframe after removing the leadframe and package from the mold and before the trimming and forming of the leadframe.

80. The method of claim 78 wherein the act of treating the portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area comprises treating the portion of the leadframe so that mold compound adheres to the treated area significantly more securely than the mold compound adheres to portions of the leadframe outside the mold compound adherence area.

81. The method of claim 78 wherein the act of treating the portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area comprises treating the portion of the leadframe so that mold compound adheres to the treated area significantly less securely than the mold compound adheres to portions of the leadframe outside the mold compound adherence area.

82. The method of claim 78 wherein the act of treating the portion of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area comprises treating respective areas on each leadframe rail of the leadframe so that mold compound adheres to the treated area to a significantly different degree than the mold compound adheres to portions of the leadframe outside the mold compound adherence area.

83. The method of claim 82 wherein the act of treating respective areas on each leadframe rail comprises treading opposite surfaces on each of the leadframe rails.

84. The method of claim 82 wherein the act of treating respective areas on each leadframe rail comprises forming at least one aperture in each of the leadframe rails.

85. The method of claim 84 wherein the act of forming at least one aperture in each of the leadframe rails comprises forming a plurality of apertures in each of the leadframe rails.

86. The method of claim 84 wherein the act of forming at least one aperture in each of the leadframe rails comprises forming an aperture having an elongated shape in each of the leadframe rails.

87. The method of claim 82 wherein the act of treating respective areas on each leadframe rail comprises forming an area of surface treatment on each of the leadframe rails.

88. The method of claim 87 wherein the act of forming an area of surface treatment on each of the leadframe rails comprises forming an area of increased surface roughness on each of the leadframe rails.

89. The method of claim 88 wherein the act of forming an area of increased surface roughness on each of the leadframe rails comprises mechanically forming an area of increased surface roughness on each of the leadframe rails.

90. The method of claim 88 wherein the act of forming an area of increased surface roughness on each of the leadframe rails comprises chemically forming an area of increased surface roughness on each of the leadframe rails.

91. The method of claim 88 wherein the act of forming an area of increased surface roughness on each of the leadframe rails comprises chemically forming an area of increased surface roughness on each of the leadframe rails.

92. The method of claim 87 wherein the act of forming an area of surface treatment on each of the leadframe rails comprises forming an area of a material on each of the leadframe rails that is different from a material used to form another portion of the leadframe.

93. The method of claim 82 wherein the act of treating respective areas on each leadframe rail comprises coating respective areas on each of the leadframe rails with a material that alters the adherence of the mold compound to the leadframe rails.

94. The method of claim 93 wherein the act of coating respective areas on each of the leadframe rails with a material that alters the adherence of the mold compound to the leadframe rails comprises coating respective areas on each of the leadframe rails with a material that increases the adherence of the mold compound to the leadframe rails.

95. The method of claim 93 wherein the act of coating respective areas on each of the leadframe rails with a material that alters the adherence of the mold compound to the leadframe rails comprises coating respective areas on each of the leadframe rails with a material that decreases the adherence of the mold compound to the leadframe rails.

96. A method of packaging an integrated circuit, comprising:

mounting an integrated circuit on a leadframe, the leadframe having a pair of leadframe rails;

placing the leadframe in a mold having a plurality of mold cavities;

injecting a mold compound into the mold cavities;

allowing the mold compound to solidify;

after the mold compound has solidified, removing the leadframe and a package formed by the mold compound from the mold as a unit, the rails of the leadframe being at least partially coated with mold compound after being removed from the mold; and

trimming the leadframe while maintaining substantially all of the mold compound on the leadframe rails that was on the leadframe rails when the leadframe and package were removed from the mold.

97. The method of claim 96, further comprising deflashing the leadframe after removing the leadframe and package from the mold and before the trimming the leadframe.

98. The method of claim 96 wherein the act of maintaining substantially all of the mold compound on the leadframe rails comprises, prior to the act of placing the leadframe in the mold, treating at least part of the leadframe rails so that the mold compound adheres to the treated area significantly more securely than the mold compound adheres to portions of the leadframe rails outside the treated area.

99. A method of packaging an integrated circuit, comprising:

mounting an integrated circuit on a leadframe, the leadframe having a pair of leadframe rails;

placing the leadframe in a mold having a plurality of mold cavities;

injecting a mold compound into the mold cavities;

allowing the mold compound to solidify;

after the mold compound has solidified, removing the leadframe and a package formed by the mold compound from the mold as a unit, the rails of the leadframe being at least partially coated with mold compound after being removed from the mold; and

deflashing the leadframe after removing the leadframe and package from the mold, the act of deflashing removing substantially all of the mold compound from the leadframe rails; and

trimming the leadframe.

100. The method of claim 99 wherein the act of removing substantially all of the mold compound from the leadframe rails comprises, prior to the act of placing the leadframe in the mold, treating at least part of the leadframe rails so that the mold compound adheres to the treated area significantly less securely than the mold compound adheres to portions of the leadframe rails outside the treated area.